

THE LOWRY COALITION

P.O. Box 13425
Denver, Colorado 80201

ADMINISTRATIVE RECORD

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EPA, REGION VIII
HAZARDOUS WASTE
MANAGEMENT DIVISION

December 13, 1991

VIA HAND DELIVERY

Robert L. Duprey, Director
Environmental Protection Agency, Region VIII
Hazardous Waste Management Division
One Denver Place, Suite 1300
999 18th Street
Denver, Colorado 80202-2413

Re: Department of Energy and Department of Defense/
De Minimis Settlement

Dear Mr. Duprey:

It is our understanding that the Environmental Protection Agency ("EPA") is presently negotiating with certain potentially responsible parties ("PRPs") at the Lowry Landfill Superfund site with regard to a de minimis settlement. It is further our understanding that the PRPs participating in the negotiations are those eligible under EPA's de minimis criteria published on August 1, 1991.

The Lowry Coalition objects to any consideration of the Department of Energy ("DOE"), or any of its contractors at the Rocky Flats Plant, including Rockwell International, Inc. ("Rockwell") and Dow Chemical Company ("Dow"), for de minimis settlement. The information and data available to EPA demonstrates that man-made radionuclides which only could have originated from the Rocky Flats Plant are present in significant quantities at Lowry Landfill. Such man-made radionuclides may have a significant impact on the potential remedies at Lowry. Accordingly, it is inappropriate to consider DOE, or any other entity associated with the Rocky Flats Plant, for de minimis settlement at this time.

The Coalition also objects to any consideration of the Department of Defense ("DOD"), or any of its related entities, including the U.S. Air Force, U.S. Army, U.S. Veterans Administration Center and U.S. Defense Logistics Agency, for de minimis settlement. DOD, and its related entities, used the area in and around Section 6, known as the Lowry Bombing Range, for over 20 years prior to the transfer of Section 6, and other sections, to the City and County of Denver ("Denver") in 1964. The full extent of DOD activities, including the disposal of wastes on Section 6, has not been determined and, therefore, DOD and its related entities should not be considered for de minimis settlement.

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EPA, REGION VIII
SUPERFUND BRANCH

DOE/Rockwell/Dow

Rockwell, the operator of the Rocky Flats Plant from June 30, 1975 to late 1990, is among the Lowry Landfill PRPs eligible for de minimis settlement based upon EPA's criteria. A review of information and data available to EPA demonstrates the inappropriateness of allowing Rockwell, or DOE, to avoid its share of liability for Lowry Landfill through de minimis settlement. The information and data available to EPA include:

- (1) Rockwell's 104(e) response which leaves many questions unanswered as to the volume of wastes disposed at Lowry Landfill and the constituents of those wastes;
- (2) other information which presents significant evidence of the disposal of radioactive materials from the Rocky Flats Plant at or near the Lowry Landfill site; and
- (3) the site data, as developed through the investigations of EPA and the Coalition, which reflect elevated levels of man-made radionuclides attributable only to the Rocky Flats Plant.

104(e) Response/Other Information

In its initial 104(e) response, dated July 1, 1986, DOE denied having knowledge of the shipment of any waste material to Lowry Landfill and claimed that any off-site waste shipments from the Rocky Flats Plant were sent to DOE facilities in Idaho and Nevada. The DOE further claimed that many documents had been destroyed and were no longer available.

In a follow-up letter dated August 18, 1986, however, EPA notified DOE that its 104(e) response was inconsistent with information provided in a 1979 State of Colorado Industrial Waste Survey in which DOE reported that it transferred paint thinner and motor oil to Waste Transport Company, a transporter known to have taken wastes to Lowry Landfill. Although DOE claimed in the Survey that the materials were shipped off-site for "reclamation," EPA asked for an explanation.

On November 13, 1986, DOE revised its 104(e) response acknowledging that it had shipped paint thinner and motor oil to Waste Transport Company. The DOE also acknowledged that it had shipped to "unknown" recipients several waste materials. These wastes included: scrap batteries, machine oil, coolants, solvents, cleaners, transmission oil, lead, silver, liquid mercury, beryllium scrap, photographic solution, trichloroethylene, paint primer and thinner, tires, acids and other miscellaneous chemicals and resins. The DOE further reported that in most instances the annual quantity of these wastes shipped off-site was unknown.

In its December 1990 Waste-In List, EPA attributed to Rockwell 218,180 gallons of wastes shipped from the Rocky Flats Plant to Lowry Landfill. On February 15, 1991, Rockwell responded to EPA's Waste-In List claiming that it was not responsible for any waste shipments prior to June 30, 1975, because Dow Chemical Company ("Dow") was the DOE operating contractor at the Rocky Flats Plant prior to that date. Based on Rockwell's response, EPA in its May 1991 Waste-In List reduced Rockwell's volume to 55,630 gallons described as paint sludge, waste oil and solvent. This apparently is the same volume and description of materials included in EPA's most recent November 4, 1991 Waste-In List.

The history of EPA's 104(e) requests to DOE and Rockwell, and their responses, leaves several questions unanswered:

1. EPA identified on its "Lowry Landfill File Review Form" (November 4, 1990) (Attachment A), prepared from Rockwell's 104(e) response and other information, three waste streams attributable to Rockwell in addition to paint sludge, waste oil and solvent. These waste streams are identified as follows:

Grease -- Solvents -Haz.-2.2(a)(k)
Waste Chemicals -- Haz.-2.2(e)
Evaporator Salts -- Haz.-2.2(a), Radioactive

Because the volumes of these wastes are listed as "unknown," however, EPA attributes no volume whatsoever to Rockwell. The failure to take these waste streams into account without further explanation unfairly places Rockwell's, and therefore DOE's, liability on other PRPs.

2. EPA's failure to include the waste streams identified in its Lowry Landfill File Review Form is even more egregious when other information is readily available. For example, one document¹ prepared by Rockwell in 1987, reports the annual volume rates and radionuclide concentrations of waste streams virtually identical to those indicated on EPA's Review Form. Table 1.0 (Attachment B) is a summary of those waste streams. As readily noted, there are a number of waste streams identified as "solvents" and "chemicals." Many of the waste streams are generated in substantial volumes and contain high levels of radionuclides.

Additionally, one item, "Cemented Salt Residue," is generated at a rate of 2 million pounds/year and contains the following radionuclides: Pu-239, 160 pCi/g; Am-244, 88 pCi/g; U-233, 25 pCi/g; U-238, 88 pCi/g; and H3, 1300 pCi/g. This waste stream is similar to the "Evaporator Salts," which were disposed off-site. EPA attributes no volume to Rockwell for this waste stream listed on EPA's Review Form.

¹"Waste Stream Identification and Characterization, U.S. DOE Rocky Flats Plant, Rockwell International/Roy Weston, April 6, 1987; Overview and Areas 1, 2(Vol. 1 and 2), 3, 4(Vol. 1-6)"

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3. EPA has not attributed to any PRP wastes shipped off-site from the Rocky Flats Plant during the period of 1965 through June 30, 1975. During this period the Rocky Flats Plant was operated by Dow and wastes were being received at Lowry Landfill. To our knowledge, EPA's 1986 104(e) request was not even issued to Dow.

Nor has EPA determined the amount or nature of wastes Dow may have disposed at or near Lowry Landfill prior to 1965. A former Colorado State Patrolman, W. H. Wilson, reported to the Colorado Department of Health ("CDH") by letter dated April 20, 1977 (Attachment C):

In the year 1961 when I was a Colorado State Patrolman on patrol of State Highway 30 (east of Buckley Naval Air Station) I had the opportunity to stop for a PUC check a Boulder County Milk Transport Truck that bore Boulder County License plates. The driver stated he was not hauling Boulder milk but rather "polluted radioactive waters" from the Rocky Flats Plant to areas near the missile sites under construction for disposal. He said they disposed the polluted waters in any old valley or hole on the range by government agreement.

The missile silo sites were located in the adjacent section to the Lowry Landfill and were accessed from Quincy Road which forms the south boundary of the Landfill. Mr. Wilson also reported:

The hauling of polluted waters from the Rocky Flats Plant continued, and I confirmed it was very dangerous material from a Army Reserve Officer friend who was employed at Dow. In approximately 1964, or later, when employed in other specialized law enforcement work, the milk company trucks were observed to be hauling the waters to old missile site silos or burial grounds near sites on the Buckley Missile Range.

Mr. Wilson was apparently interviewed by EPA representatives in 1985. In a handwritten memorandum dated November 3, 1985 (Attachment D), John Haggard of EPA reported that Mr. Wilson stated that wastes from Dow were dumped in drainages, "including the drainages in Section 6." Mr. Haggard recommended follow-up by EPA. In spite of this recommendation, Dow was not issued a 104(e) request by EPA in 1986.

In summary, many questions are left unanswered by DOE and Rockwell's 104(e) responses. The questions concerning man-made and other radionuclides in the waste streams known to have been disposed at Lowry Landfill from the Rocky Flats Plant need to be answered before DOE, Rockwell or Dow can be released from liability at Lowry Landfill.

Site Data

EPA did not conduct any radionuclide analyses of samples collected during Phase I of the Remedial Investigation ("RI"). Radionuclide analyses, however, were performed for all five quarters of sampling during Phase II of the RI and also during the Additional Site Characterization ("ASC") conducted by the Coalition.

The Coalition requested that Harding Lawson Associates ("HLA") review the data and evaluate the presence of radionuclides. HLA's report is enclosed as Attachment E. Because of the presence of man-made radionuclides in the Phase II and ASC samples, and the imminence of a de minimis settlement which could include Rockwell, HLA was asked to evaluate atomic weights greater than 238 which result from neutron bombardment associated with nuclear fission. Nuclear fission is generally associated with commercial nuclear power production and production of source materials for nuclear weapons manufacture.

HLA's report contains evaluations of the site data for Am-241, Pu-239/240 and Pu-241. To our knowledge, the only local source of these man-made radionuclides during the period of 1960 through 1980 would have been the Rocky Flats Plant. Based upon its evaluations, HLA reached the following conclusions:

1. Analyses of the waste pits and shallow and deep groundwater samples taken during Phase II of the RI and the ASC show elevated levels of Am-241, Pu-239/240 and Pu-241.

2. All three man-made radionuclides were detected in shallow groundwater monitoring wells located at the south and southwest margins (upgradient) of the Lowry Superfund site.

3. The levels of Am-241 and Pu-239/240 detected in wells on Lowry Landfill are 10 to 10,000 times greater than the background levels reported for the Rocky Flats Plant by EG&G, the current DOE contractor.

4. All three man-made radionuclides (Am-241; Pu-239/240; and Pu-241) were detected in the upgradient wells at Lowry Landfill at concentrations 50 to 5,000 times greater than background levels reported for the Rocky Flats Plant by EG&G.

5. The occurrence of Am-241 and other man-made radionuclides in the upgradient shallow groundwater monitoring wells located in the south and southwest of the site along Quincy and Gun Club Roads are consistent with reports that tanker trucks from the Rocky Flats Plant disposed of liquid wastes along these roads during the early 1960s.

In addition to evaluating the site data, HLA was asked to assess the impact of the man-made radionuclides on potential remedies for Lowry Landfill. HLA concluded that the occurrence of the man-made radionuclides could have a deleterious impact on the ability of potential remedial alternatives to achieve ARARs and the costs associated with residuals management and groundwater collection and treatment.

The Lowry Coalition has not yet completed its review of the implications of the presence of man-made radionuclides at Lowry Landfill or the information available to implicate DOE, Dow or Rockwell. Enough information is available, however, to demonstrate that the Rocky Flats Plant and its owners and operators have significant liability and responsibility at Lowry Landfill. Consideration of any of these entities for de minimis settlement is inappropriate.

DOD/Related Facilities

In 1940, the City and County of Denver donated property known as the Lowry Bombing Range to the Department of War.² The property, including Section 6, was used for a number of years for personnel training and the testing of explosives and ballistics. In 1959, the use of the site as a bombing range was discontinued and construction was commenced on the Buckley missile complex. A portion of the Lowry Bombing Range, including Section 6, was transferred back to Denver by the federal government in 1964, for the express purpose of use as a sanitary landfill. In fact, the federal government retained a reversion interest if the property was not used as a sanitary landfill.³

Historical aerial photographs show activities on Section 6 prior to the transfer to Denver in 1964. As presented in the HLA report (Attachment E), 1950 and 1956 aerial photographs show a surface disturbance at the south boundary of the Landfill.

A 1963 aerial photograph (Attachment F) also shows activity at the south end of Section 6. The photograph shows a constructed facility, including a pond containing liquids. Well MW22 in the area of the location of this facility now contains high levels of Am-241 and Pu-241. EPA, to our knowledge, has not determined the origin of the pond or its source.

²Preliminary Assessment, Missile Silo Sites, Arapahoe County, Colorado, prepared by Austin Buckingham and dated September 4, 1991.

³Quit Claim Deed, between United States of America and City and County of Denver, dated July 15, 1964.

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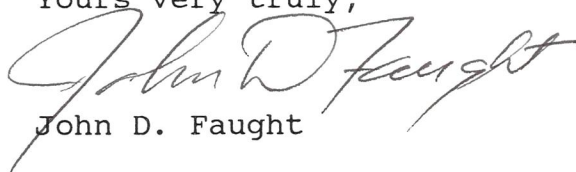
It is also evident that the Air Force disposed of waste materials at Lowry Landfill, but the true volumes remain unknown. In its 104(e) response, the Air Force stated that records of off-site disposal for the period of 1965-1980 have been destroyed. It was reported, however, that interviews with former employees confirmed shipments to Lowry Landfill from Lowry Air Force Base and Buckley. Additionally, there reportedly was an informal agreement between Lowry Air Force Base and Denver that allowed the Base to dispose of wastes at Lowry Landfill for free. Accordingly, no records were kept of these disposals by either party.

To our knowledge, EPA has not investigated the activities of federal PRPs, such as DOE and DOD, to determine the full extent of their contribution of wastes to the Lowry Landfill. The Coalition has sent Freedom of Information Act requests to various federal agencies in an attempt to obtain information which would explain the many unanswered questions, including why man-made radionuclides are present at the Lowry Landfill and the only known source is the Rocky Flats Plant, but DOE and its contractors deny any responsibility. To date, the Coalition's requests have been met with resistance by these agencies. We have recently issued new requests and hope to receive more forthcoming responses.

Until such time as the contribution of DOE, and its contractors, and DOD, and its related entities, to Lowry Landfill is determined, these entities should not and cannot be eligible for de minimis settlement. Furthermore, EPA has a statutory responsibility under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 to determine the volume and nature of the wastes contributed by these federal PRPs.

We appreciate your consideration of these comments and are prepared to answer any questions.

Yours very truly,



John D. Faught

tlj
Enclosures

cc: Angus G. Campbell, CDH
Nancy H. Mueller, EPA
Brenda L. Harris, Esq., EPA